Oligonucleotide Inhibitors of bcl-xL

Abstract of the Invention

This invention provides an antisense oligonucleotide or analog thereof comprising 10 or more contiguous bases or base analogs from the sequence of bases of sequence A, B, C, D, E, F, G, H, I, J, K, L, or M of Figure 1. This invention also provides the above-described antisense oligonucleotides, wherein the nucleotide sequence comprises nucleotide sequence A, A', B, C, C', D, E, E', F, G, G', H, H', I, I', J, K, K', L, L', M, or M' of Figures 2A and 2B. This invention also provides the above-described antisense oligonucleotides, wherein the oligonucleotide is encapsulated in a liposome or nanoparticle. This invention also provides the above-described antisense oligonucleotides, wherein the phosphate backbone comprises phosphorothioate bonds. In addition, this invention provides a method of treating cancer, comprising introducing into a tumor cell an effective amount of the the above-described antisense oligonucleotide, thereby reducing the levels of bcl-xL protein produced and treating cancer. This invention also provides the above-described methods, wherein the introducing comprises using porphyrin or lipofectin as a delivery agent. This invention also provides the above-described pharmaceutical compositions, wherein the oligonucleotide is encapsulated in a liposome or nanoparticle. This invention further provides the above-described pharmaceutical compositions, wherein the pharmaceutical composition comprises tetra meso-(4-methylpyridyl)porphine or tetra meso-(anilinium)porphine or a combination thereof.